

CLAIMS

1. A method of making oil-in-water (O/W) and water-in-oil (W/O) emulsions and microemulsions containing elastomeric silanes or siloxanes having quaternary ammonium groups in their molecule as the oil phase of the emulsion or microemulsion, comprising
5 reacting (i) an organic quaternary ammonium compound having epoxide groups or halohydrin groups in its molecule, with (ii) a silane or siloxane having amino groups in its molecule, in the presence of (iii) a crosslinking agent, and (iv) a surfactant, dispersed in (v) an aqueous polar phase.
- 10 2. A method according to Claim 1 in which the organic quaternary ammonium compound having epoxide groups is glycidyl trimethylammonium chloride or glycidyl trimethylammonium bromide.
- 15 3. A method according to Claim 1 in which the organic quaternary ammonium compound having halohydrin groups is selected from the group consisting of
(3-chloro-2-hydroxypropyl)trimethylammonium chloride,
(3-chloro-2-hydroxypropyl)dimethyldodecylammonium chloride,
(3-chloro-2-hydroxypropyl)dimethyloctadecylammonium chloride,
(3-chloro-2-hydroxypropyl)trimethylammonium bromide,
20 (3-chloro-2-hydroxypropyl)dimethyldodecylammonium bromide, and
(3-chloro-2-hydroxypropyl)dimethyloctadecylammonium bromide.
4. A method according to Claim 1 in which the aqueous polar phase consists of water.
- 25 5. A method according to Claim 1 in which the aqueous polar phase comprises water and a polar organic compound.
6. A method according to Claim 5 in which the polar organic compound is selected from the group consisting of monohydroxy alcohols, diols, triols, glycerol esters, and polyglycols.

7. A method according to Claim 1 in which the crosslinking agent is selected from the group consisting of organic epoxides containing at least two epoxy groups, epoxy functional silicones containing at least two epoxy groups, chlorohydrins, hydroxyalkyl acrylates, and isocyanates.

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8. An emulsion or microemulsion prepared according to the method defined in Claim 1.

9. An elastomeric silane or siloxane having quaternary ammonium groups in its molecule prepared according to the method defined in Claim 1.

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10. A method of making oil-in-water (O/W) and water-in-oil (W/O) emulsions and microemulsions containing elastomeric silanes or siloxanes having nitrogen atoms as the oil phase of the emulsions or microemulsions, comprising the sequential steps of:

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(i) preparing a first mixture containing only silanes or siloxanes having amino groups in their molecule and a surfactant;

(ii) preparing a second mixture by adding a first portion of an aqueous polar phase to the first mixture;

(iii) preparing a third mixture by adding the balance of the aqueous polar phase to the second mixture;

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(iv) preparing a fourth mixture by adding a crosslinking agent to the third mixture; and

(v) heating the fourth mixture.

11. A method according to Claim 10 in which the aqueous polar phase consists of water.

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12. A method according to Claim 10 in which the aqueous polar phase comprises water and a polar organic compound.

13. A method according to Claim 12 in which the polar organic compound is selected from the group consisting of monohydroxy alcohols, diols, triols, glycerol esters, and polyglycols.

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14. A method according to Claim 10 in which the crosslinking agent is selected from the group consisting of organic epoxides containing at least two epoxy groups, epoxy functional silicones containing at least two epoxy groups, chlorohydrins, hydroxyalkyl acrylates, and isocyanates.

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15. An emulsion or microemulsion prepared according to the method defined in Claim 10.

16. An elastomeric silane or siloxane prepared according to the method defined in Claim 10.